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# MULTIMEDIA UNIVERSITY

## FINAL EXAMINATION

TRIMESTER 2, 2018/2019

### **THN 3221 – HIGH SPEED NETWORKS** (All Sections / Groups)

7 MARCH 2019  
2.30 p.m. – 4.30 p.m.  
(2 Hours)

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#### INSTRUCTIONS TO STUDENTS

1. This question paper consists of 3 printed pages including cover page with 5 questions only.
2. Attempt **ALL** questions. Marks and the distribution of marks for each question is given.
3. Please write all your answer in the Answer Booklet provided.

**Question 1 [10 Marks]**

- (a) Outline the meaning of interoperability, and state why is it especially important in the Internet.  
[2 Marks]
- (b) With an aid of diagram, identify the layers in the TCP/IP model, and give a brief explanation of each.  
[6 Marks]
- (c) Differentiate between a server and a client application.  
[2 Marks]

**Question 2 [10 Marks]**

- (a) Identify **TWO** examples of each narrowband and broadband access technologies.  
[2 Marks]
- (b) Outline **TWO** techniques used to overcome jitter.  
[2 Marks]
- (c) Point out **SIX** basic methods used with Session Initiation Protocol (SIP).  
[6 Marks]

**Question 3 [10 Marks]**

- (a) Compare between token bucket and leaky bucket algorithms in the context of traffic shaping policy.  
[4 Marks]
- (b) Identify **FOUR** steps used to implement Quality of Service (QoS).  
[4 Marks]
- (c) Point out why is measurement of network performance difficult.  
[2 Marks]

**Continued.....**

**Question 4 [10 Marks]**

- (a) Explain **THREE** advantages of Multiprotocol Label Switching (MPLS).  
[3 Marks]
- (b) Outline **THREE** functions performed by MPLS.  
[3 Marks]
- (c) Outline the difference between traditional networking and software defined networking.  
[1 Mark]
- (d) Specify **THREE** layer of Software Defined Network (SDN) architecture.  
[3 Marks]

**Question 5 [10 Marks]**

- (a) Explain how content caching can reduce the delay in receiving a requested object.  
[2 Marks]
- (b) With an aid of a diagram, explain the concept of web load balancer.  
[6 Marks]
- (c) Specify **TWO** locations where the sensor networks being used.  
[2 Marks]

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